DOCUMENT RESUME

ED 321 350 EA 021 942

TITLE	Union Involvement in Knowledge/Skill Development, Data-Search Number 5. What Research Says About Series.
INSTITUTION	National Education Association, Washington, D.C.
PUB DATE	Aug 86
NOTE	32p.
PUB TYPE	Reports - Evaluative/Feasibility (142)
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	*Apprenticeships; Elementary Secondary Education; *Government Role; *Job Training; *On the Job Training; *Teachers; *Unions
IDENTIFIERS	*Bureau of Apprenticeship and Training

ABSTRACT

In the current educational reform climate, teacher training is being intensely scrutinized by policy makers, the general public, and teachers clamoring for increased training in the practical aspects of teaching. This booklet examines the labor organization's role in its members' job-related training. Although unions have historically played a major role in their members' knowledge and skill development, no comprehensive or authoritative information sources on training programs with union involvement exist. The study summarized here attempts to rectify this situation by examining apprenticeship programs conducted under the auspices of the Bureau of Apprenticeship and Training (BAT), the Department of Labor agency responsible for the administration and technical support of programs meeting federal standards. Journeyman upgrading programs are also investigated, along with the Air Line Pilots Association's involvement in training and evaluation. Study results indicate that union training programs and union involvement in issues around training serve to further the collective interests of individual unions' members. Apprenticeship and other training programs help unions: (1) define their respective crafts; (2) adapt to trade changes; (3) ensure maximum employability of their members; (4) ensure workers' skill consistency; and (5) tie increases in compensation to increases in skills. Intermediary government agencies do not necessarily eliminate unions' training and evaluation role, but instead define areas of union involvement. (39 references) (MLH)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED321350

NEA RESEARCH

What Research Says About:

UNION INVOLVEMENT IN KNOWLEDGE/ SKILL DEVELOPMENT

Number 5

EA 021 942

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Linda Hill

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Professional and Organizational Development/Research Division

BEST COPY AVAILABLE

Reproduction: No part of this report may be reproduced in any form without written permission from NEA Research, except by NEA-affiliated associations. Any reproduction of the report materials must include the usual credit line. Address communications to Editor, NEA Research.

National Education Association
1201 Sixteenth Street, N.W.
Washington, D.C. 20036

Foreword

In the current climate of educational reform, teacher training is being subjected to intense scrutiny. Policy makers, members of the general public, and teachers themselves are clamoring for increased training in the practical aspects of teaching.

At issue here is the role a labor organization can or should play in the job-related training of its members. While unions have historically played a major role in the knowledge and skill development of their members, no comprehensive or authoritative source of information on training programs with union involvement existed at the time this study was initiated.

This study examines contemporary job-related training programs with union involvement. Programs are analyzed with respect to the ways they serve to further the interests of the labor organizations themselves. It is our hope that this study will provide material and insights for the consideration of possible NEA roles with respect to on-the-job teacher training along with the potential advantages such involvement might hold for the organization.

This study uses available documents on Department of Labor-approved programs, union constitutions, Business Roundtable publications, bulletins from the Department of Labor's Bureau of Apprenticeship and Training, and interviews with officials from the AFL-CIO and international unions.

We gratefully acknowledge the assistance of IPD and Affiliate Services in reviewing and responding to earlier drafts of this paper.

August 1986

UNION INVOLVEMENT IN KNOWLEDGE/ SKILL DEVELOPMENT

Number 5

TABLE OF CONTENTS

	Page
INTRODUCTION	5
FURTHERING THE COLLECTIVE INTERESTS OF UNION MEMBERS AND SOCIETY	6
APPRENTICESHIP	8
JOURNEYMAN UPGRADING	23
THE BUILDING AND CONSTRUCTION TRADES UNION	24
TRAINING AND EVALUATION UNDER GOVERNMENT AUSPICES: THE ALPA EXAMPLE	29
REFERENCES	30

INTRODUCTION

Our inquiry begins with the study of apprenticeship programs conducted under the auspices of the Bureau of Apprenticeship and Training (BAT). BAT is the Department of Labor agency responsible for the administration and technical support of programs meeting federal standards. Programs recognized by BAT are the most important source of skilled workers in the United States. The issues of definition, number of participants, principal unions, program organization, union and government regulation, apprentice evaluation, funding, objectives, and the percentage of journeymen going through apprenticeship programs are taken up in this section.

Second, journeyman upgrading programs are investigated. A shortage of information on this subject has precluded more than a brief note on it.

The critical importance of apprenticeship and journeyman upgrading programs in the building and construction trades unions cannot be understood out of the context of contemporary developments in the U.S. construction industry (specifically the growth of the open shop movement).

For this reason, a brief discussion of how construction unions operate is included together with an overview of the open shop movement in the construction industry.

Third, we discuss the involvement of the Air Line Pilots Association in training and evaluation. The ALPA example is important because it illustrates union training involvement in an industry heavily regulated by the federal government. Our brief examination attempts to point out that while stringent federal regulations do not preclude union involvement, they define the areas in which unions are allowed to exercise their authority.

The principal findings from our investigation of union involvement in training and evaluation are presented in the beginning of this volume. The extent to which these conclusions are related to the occupational conditions of education professionals is left for future studies to determine.

FURTHERING THE COLLECTIVE INTERESTS OF UNION MEMBERS AND SOCIETY

This study indicates that union training programs and union involvement in issues around training serve to further the collective interests of the members of individual unions. Our conclusions are noted below.

Apprenticeship and other training programs give unions the opportunity to control the labor market. This stems from unions' control over admission into joint training programs and the absence of other programs which are capable of turning out skilled craftsmen. If non-union employers manage to produce an adequate supply of non-union journeyworkers, they will undercut the power of the established trade unions much more than they already have. For our purposes, however, the critical point is that control over training can serve to secure control over labor market conditions.

Apprenticeship and other training programs provide unions with the opportunity to define their respective crafts. In defining skills, unions define the content of their members' work. This becomes very important when occupational boundaries are under attack or in the process of change.

Apprenticeship and other training programs are one means by which unions can adapt to changes in their respective trades. In order to protect their positions in the labor market (and hence their wage structures), unions must keep their members apprised of changes in their respective trades. In training programs, union members are kept abreast of changes in their trades.

Apprenticeship programs are one way for unions to insure the maximum employability of their members. Because union members learn the full range of skills they need to know in order to work in their chosen trades, they can be employed in a much wider range of tasks than their non-union counterparts.

Apprenticeship and other training programs ensure the consistency of workers' skills for individual occupations. In consonance with this, apprentices learn skills that are easily transferable from one region to another and one project to another.

Apprenticeship programs underline the principle that increases in compensation should be tied to increases in skills. Apprentices are paid less than journeymen because they are not as proficient as journeymen in their crafts.

Rather than union involvement in training and evaluation undermining the strength of the union, the AFL-CIO Building and Construction Trades Department sees training as "one of the principal tools to combat the open shop."

In some instances, apprenticeship and other union-sponsored training programs serve to create support for the union and union-sponsored training among managers. Construction trades managers and contractors have come through apprenticeship programs occasionally. This suggests that apprenticeship programs offer some managers their first training in the customs and practices of the construction industry.

Concerning federal government involvement, intermediary government agencies do not necessarily eliminate the role of unions in training and evaluation, but instead define the areas in which unions may be involved.

Further, government regulation of apprentice training programs permits a great deal of local discretion. While national standards are promulgated for individual trades, local administration of national standards and the adaptation of national standards for local use keeps national standards relevant to local needs. *The lesson in this instance is that national standards must be flexible enough to permit some degree of local adaptation and interpretation.* This takes on special importance in the context of attempts to introduce national standards for teacher certification.

From the standpoint of society, union involvement in skill development prevents "dilution of the trade." When dilution of the trade occurs, it is not a temporary phenomenon. It results in the permanent elimination of skills insofar as fewer and fewer craftsmen are available to teach the full range of skills contained in the craft. For example, only a few people remain that are capable of carving stone. In another vein, compare the tilework in Washington's Metro system with the tilework in New York's subway system. There are few tileworkers left who can

do the kind of work found in New York's subway platforms or in the enormous tile mural in the AFL-CIO lobby. This is a loss to society, not just to the trade. This results in the restriction of the kind of construction and architecture we are capable of as a society.

The initial conclusions drawn from this study are potentially applicable to education professionals at the present time. The extent of applicability, however, cannot be determined without additional discussion and debate

Definition

Apprenticeship is formal training in a skill or craft. Apprenticeship programs combine on-the-job training with related classroom instruction. Since apprentices are actually employed while being trained, apprenticeship is distinguished from vocational education.

According to the U.S. Department of Labor, an apprenticeship program constitutes an effective method of training workers under the following conditions:

- On the job
- For a specific length of time
- At predetermined rates of training pay
- For a specified range of skills
- In one particular occupation
- With stated hours of related technical instruction
- Under a written agreement between the program sponsor and apprentice (BAT, *Setting Up*, p. 3A).

Federal and state apprenticeship agencies currently recognize over 800 occupations as apprenticeable.

Government Regulation

The modern form of apprenticeship programs dates from 1937 and the passage of the National Apprenticeship Act. The Act mandated regular standards and goals for employers, unions, and apprentices.

Under the National Apprenticehsip Act, the U.S. Secretary of Labor is authorized and directed to "formulate and promote the furtherance of labor standards necessary to safeguard the welfare of the apprentices, to extend the application of such standards by encouraging the inclusion thereof in contracts of apprenticeship, to bring together employers and labor for the formulation of programs of apprenticeship, to cooperate with State agencies engaged in the formulation and promotion of standards of apprenticeship, and to cooperate with the Department of Health, Education, and Welfare."

Programs registered with the U.S. Department of Labor are regulated under 29 CFR 29 (Labor Standards for the Registration of Apprenticeship Programs) and 29 CFR 30 (Equal Employment Opportunities in Apprenticeship and Training) of the Code of Federal Regulations.

Title 29, Part 29 contains information on criteria for apprenticeable occupations, standards of apprenticeship, and content guidelines for apprenticeship agreements. These guidelines are shown below.

According to 29 CFR 29.4, an apprenticeable occupation is one that:

- Is customarily learned in a practical way through a structured, systematic program of supervised on-the-job training.
- Is clearly identified and commonly recognized throughout an industry.
- Involves manual, mechanical, or technical skills and knowledge that require a minimum of 2,000 hours of on-the-job work experience.
- Requires related instruction to supplement the on-the-job training. Such instruction may be given in a classroom, through correspondence courses, self-study, or other means of approved instruction (BAT, *National Apprenticeship Programs*, p. 4).

According to 29 CFR 29.5, apprenticeship programs must contain the following standards in order to be recognized by the Department of Labor:

- The program is an organized, written plan embodying the terms and conditions of employment, training, and supervision of one or more apprentices in the apprenticeable occupaton and subscribed to by a sponsor who has undertaken to carry out the apprentice training program.
- The program standards contain the equal opportunity pledge prescribed in 29 CFR 30.3(b) and, when applicable, an affirmative action plan in accordance with 29 CFR 30.4, a selection method authorized in 29 CFR 30.5, or similar require-

ments expressed in a State Plan for Equal Employment Opportunity in Aprenticeship adopted pursuant to 29 CFR Part 30 and provisions concerning the following:

- The employment and training of the apprentice in a skilled trade;
- A term of apprenticeship, not less than 2,000 hours work experience, consistent with training requirements established by industry practices;
- An outline of work processes in which the apprentice will receive supervised work experience and training on the job, and the allocation of the approximate time to be spent in each major process;
- Provision for organized, related and supplemental instruction in technical subjects related to the trade. A minimum of 144 hours for each year of apprenticeship is recommended;
- A progressively increasing schedule of wages to be paid the apprentice consistent with the skill acquired;
- Periodic review and evaluation of the apprentice's progress in job performance and related instruction; and the maintenance of appropriate progress records;
- The numeric ratio of apprentices to journeymen consistent with proper supervision, training, safety, and continuity of employment and applicable provisions in collective bargaining agreements, except where such ratios are expressly prohibited by the collective bargaining agreements;
- A probationary period reasonable in relation to the full apprenticeship term, with full credit given for such period toward completion of apprenticeship;
- Adequate and safe equipment and facilities for training and supervision, and safety training for apprentices on the job and in related instruction;
- The minimum qualifications required by a sponsor for persons entering the apprenticeship program, with an eligible starting age not less than 16 years;
- The placement of an apprentice under a written apprenticeship agreement as required by the State apprenticeship law and regulation, or the Bureau where no such State law or regulation exists;
- The granting of advanced standing or credit for previously acquired experience, training, or skills for all applicants equally, with commensurate wages for any progression step so granted;
- Transfer of employer's training obligation when the employer is unable to fulfill his obligation under the apprenticeship agreement to another employer under the same program with consent of the apprentice and apprenticeship committee or program sponsor;
- Assurance of qualified training personnel and adequate supervision on the job;
- Recognition for successful completion of apprenticeship evidenced by a appropriate certificate;
- Identification of the registration agency;
- Provision for the registration, cancellation, and deregistration of the program; and requirement for the prompt submission of any modification or amendment thereto;
- Provision for registration of apprenticeship agreements, modifications, and amendments; notice to the registration office of persons who have successfully completed apprenticeship programs; and notice of cancellations, suspensions and terminations of apprenticeship agreements and clauses thereof;
- Authority for the termination of an apprenticeship agreement during the probationary period by either party without stated cause;
- A statement that the program will be conducted, rerated and administered in conformity with applicable provisions of 29 CFR 30, as amended, or a State EEO in apprenticeship plan adopted pursuant to 29 CFR Part 30 and approved by the Department;
- Name and address of the appropriate authority under the program to receive, process and make disposition of complaints;

— Recording and maintenance of all records concerning apprenticeship as may be required by the Bureau or recognized State Apprenticeship Agency and other applicable law.

According to 29 CFR 29.6, the apprenticeship agreement shall contain explicitly or by reference:

- Names and signatures of the contracting parties and the signature of a parent or guardian if the apprentice is a minor.
- The date of birth of the apprentice.
- Name and address of the program sponsor and registration agency.
- A statement of the trade or craft in which the apprentice is to be trained, and the beginning date and term (duration) of apprenticeship.
- A statement showing (1) the number of hours to be spent by the apprentice in work on the job; (2) the number of hours to be spent in related and supplemental instruction which is recommended to be not less than 144 hours per year.
- A statement setting forth a schedule of work processes in the trade or industry divisions in which the apprentice is to be trained and the approximate time to be spent at each process.
- A statement of the graduated scale of wages to be paid the apprentice and whether or not the required school time shall be compensated.
- Statements providing (1) For a specific period of probation during which the apprenticeship agreement may be canceled at the request of either party; (2) That after the probationary period, the agreement may be canceled by the apprentice or terminated by the sponsor for good cause.
- A reference incorporating as part of the agreement the standards of the apprenticeship program as it exists on the date of the agreement and as it may be amended during the period of the agreement.
- A statement that the apprentice will be accorded equal opportunity in all phases of apprenticeship employment and training without discrimination because of race, color, religion, national origin, or sex.
- Name and address of the appropriate authority, if any, designated under the program to receive, process and make disposition of controversies or differences arising out of the apprenticeship agreement when the controversies or differences cannot be adjusted locally or resolved in accordance with the established trade procedure or applicable collective bargaining provisions.

Title 29, Part 30 establishes policies and procedures to promote equality of opportunity in apprenticeship programs registered with the U.S. Department of Labor or with recognized state agencies. 29 CFR 30 prohibits discrimination based on race, color, religion, national origin, or sex.

The National Apprenticeship Act of 1937 established an Office of Training Services within the Department of Labor and gave it responsibility for the administration of the Act. In 1956, the Office of Training Services was reorganized and named the Bureau of Apprenticeship and Training (BAT) (Business Roundtable, *Government Limitations*, p. 3).

BAT is responsible for providing service to existing apprenticeship programs and technical assistance to organizations who would like to establish an apprenticeship program. The Bureau works very closely with State Apprenticeship Councils (SAC) and local educational systems to deliver support services at the national, state, and local levels.

In 31 jurisdictions, states have promulgated their own regulations concerning apprenticeship programs. In these states, apprenticeship programs are administered and supported by State Apprenticeship Councils (SACs). As noted above, SACs work closely with BAT in administering and supporting apprenticeship programs.

Although state regulations govern apprenticeship programs in some instances, programs are expected to conform to 29 CFR 29 and 29 CFR 30 in order to recognized by BAT.

Jurisdictions with State Apprenticeship Councils

Arizona	New Hampshire
California	New Mexico
Colorado	New York
Connecticut	North Carolina
Delaware	Ohio
Florida	Oregon
Hawaii	Pennsylvania
Kansas	Rhode Island
Kentucky	Vermont
Louisiana	Virginia
Maine	Washington
Maryland	Wisconsin
Massachusetts	District of Columbia
Montana	Puerto Rico
Nevada	Virgin Islands

The Significance of BAT Approval

Programs registered with BAT are thus required to meet both training and administration standards promulgated by the Department of Labor. When unions and companies have collective bargaining agreements, both must approve an apprenticeship program.

Recognition by BAT is important for several reasons. First, under the 1931 Davis-Bacon Act, the Department of Labor sets prevailing wage rates on federally financed or federally assisted projects. The latter account for at least one-third of all construction (Business Roundtable, *Government Limitations*, p. 1). Examples of federal financing include tax-exempt Industrial Development Bonds (IDBs) and Urban Development Action Grants (UDAGs).

While federal financing may be only a fraction of a project's total financing, all construction jobs on the project must be paid at the prevailing wage rate. Generally speaking, the prevailing wage rate tends to be the union journeyman rate. Apprentice rates (that is, rates lower than prevailing rates) in these instances are approved only for those registered in BAT-approved programs. All other work must be paid at the journeyman rate.

Second, BAT approval lends credibility to an apprentice's background, providing formal recognition that the apprentice has received rigorous, systematic instruction in a particular craft.

Third, BAT administration and support of apprenticeship programs serves to ensure employers that well-trained workers will be available to perform skilled jobs.

Fourth, for some BAT-approved programs, apprentices are eligible for veteran's benefits.

Number of Apprentices

According to a BAT staff member, there are roughly 300,000 civilian and military apprentices enrolled in BAT apprenticeship programs. Approximately 260,000 are civilian and 40,000 are military. (Military apprenticeship programs constitute a growing segment of total programs).

Approximately 50,000 civilians register each year for BAT-approved programs. There is no authoritative source of information on how many registered apprentices graduate each year.

Because apprenticeship is actual employment, the number of apprentices in BAT programs at a particular time is contingent upon economic conditions in specific industries.

Participants

Seventy national industry standards sponsored by industry groups currently exist. The vast majority of industry groups with apprenticeship programs are covered by collective bargaining agreements. This means that apprenticeship programs must be jointly administered by both management and labor.

A BAT staff member queried for purposes of this investigation noted, "The largest and most successful programs are those administered by joint management/labor committees." All told, 80 to 90 percent of all apprentices come through programs jointly administered by management and labor.

Because the purpose of this report is to look at union involvement in skill development, all subsequent comments about apprenticeship programs will refer to jointly administered programs unless otherwise indicated.

According to the training director of a major international union, approximately 30 international unions have apprenticeship programs. Two-thirds of all registered apprentices are in programs in which building and construction trade unions participate. Although construction unions have historically had the largest programs and the greatest involvement in apprenticeship training, industrial, maritime, and professional/technical unions also provide some apprenticeship training to their members. A partial list of all unions participating in apprenticeship programs is provided below.

- Asbestos Workers, International Association of Heat and Frost Insulators and
- Automobile, Aerospace and Agricultural Implement Workers of America International Union, United
- Boilermakers, Iron Ship Builders, Blacksmiths, Forgers and Helpers, International Brotherhood of
- Bricklayers and Allied Craftsmen, International Union of
- Carpenters and Joiners of America, United Brotherhood of
- Electrical Workers, International Brotherhood of
- Electronics, Electrical, Technical, Salaried, and Machine Workers, International Union of
- Fire Fighters, International Association of
- Glass Workers Union, American Flint
- Graphic Communications International Union
- Iron Workers, International Association of Bridge, Structural and Ornamental
- Machinists and Aerospace Workers, International Association of
- Operating Engineers, International Union of
- Painters and Allied Trades of the United States and Canada, International Brotherhood of
- Pattern Makers League of North America
- Plasterers' and Cement Masons' International Association of the United States and Canada, Operative
- Plumbing and Pipe Fitting Industry of the United States, United Association of Journeymen and Apprentices of the
- Roofers, Waterproofers and Allied Workers, United Union of
- Sheet Metal Workers International Association
- Steelworkers of America, United
- Tile, Marble, Terrazzo, Finishers, Shopworkers and Granite Cutters International Union

Two building trades unions, the International Union of Elevator Constructors and the Laborers' International Union of North America have training programs, but not apprenticeship programs.

Program Organization

In the Building and Construction Trades, the international union and its corresponding contractor association(s) or industry association(s) form a National Joint Apprenticeship and Training Committee. The committee is composed of an equal number of members from management and labor.

The Joint Committee is responsible for the formulation and development of National Apprenticeship Standards for specific industries. In developing National Standards, the Committee cooperates with the Bureau of Apprenticeship and Training. BAT registers the individual programs and determines their conformity with its equal employment opportunity regulations for apprenticeship programs.

As noted above, the management group involved in individual Joint Committees changes with the industry for which standards are promulgated. A list of some of the industry/labor groups follows.

Industry/Labor Groups

Labor	*Management*
International Union of Bricklayers Allied Craftsmen	Mason Contractors Association of America
	Associated General Contractors of America
United Brotherhood of Carpenters and Joiners of America	National General Contractors Association of America
International Brotherhood of Electrical Workers	National Association of Electrical Contractors
International Union of Operating Engineers	Associated General Contractors of America
United Association of Journeymen and Apprentices of the Plumbing and Pipefitting Industry of the United States and Canada	National Association of Plumbing and Heating Contractors
	Mechanical Contractors Association of America

When unions are involved in different industries, the groups representing management on the joint committees change. For glazing and glasswork, the Joint Committee has representatives from the following groups:

Labor	*Management*
International Brotherhood of Painters and Allied Trades	Management representing the glass industry

However, for Painting, Decorating, and Drywall Finishing, the Joint Committee is composed of the following members:

Labor	*Management*
International Brotherhood of Painters and Allied Trades	Painting and Decorating Contractors of America
	Association of Wall and Ceiling Industries International

Similarly, for Plastering, the Joint Committee is composed of the following members:

Labor	*Management*
Operative Plasterers' and Cement Mason's International Association of the United States and Canada	Association of Wall and Ceiling Industries International

However, for Cement, Masonry, Asphalt, and Composition Trades, the Joint Committee is composed of the following members:

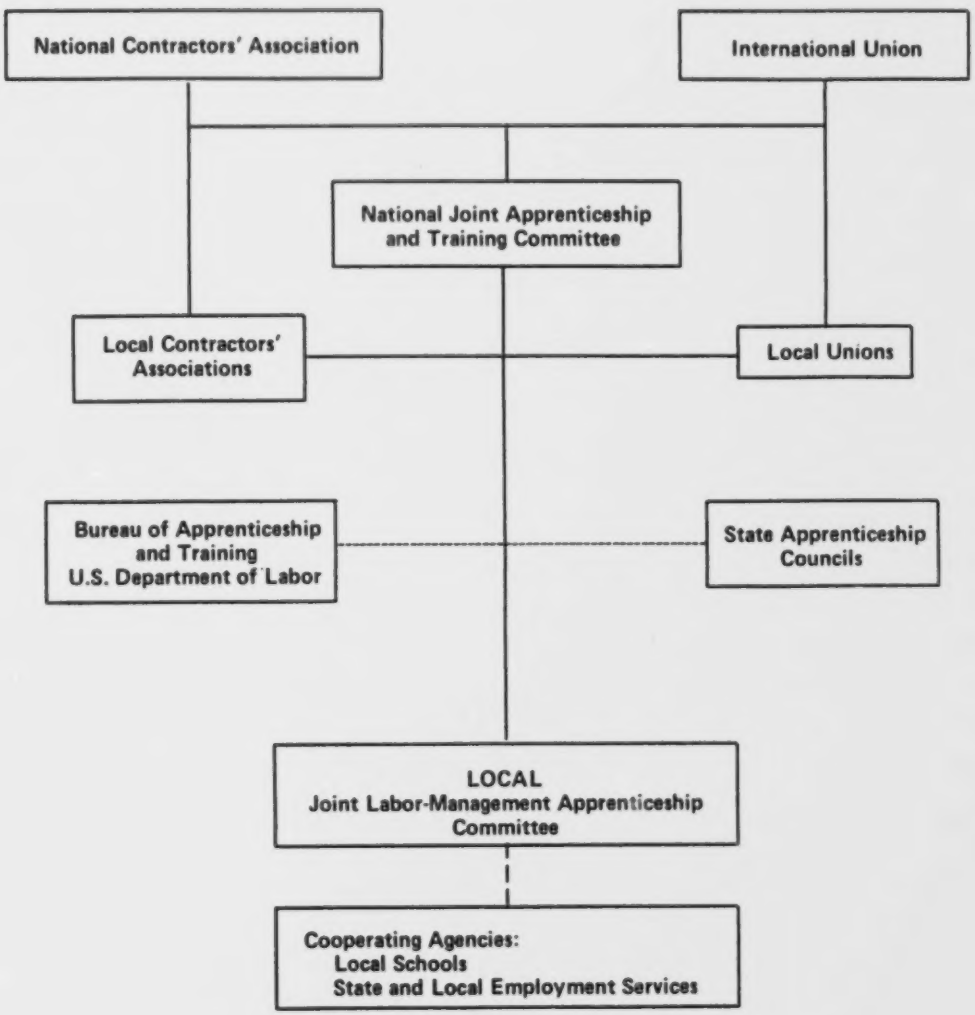
Labor	*Management*
Operative Plasterers' and Cement International Association of the United States and Canada	Associated General Masons' Contractors of America
	American Society of Concrete Construction

The National Standards promulgated by the National Joint Committee are used as guidelines by local unions and local contractor associations for setting up local Joint Apprenticeship Committees and administering apprenticeship programs. In most construction unions' apprenticeship programs, the national unions and national associations have local counterparts. For example, the International Brotherhood of Electrical Workers and the National Association of Electrical Contractors each have organizations at the local level. There is thus a relatively smooth line of communication from the national level to the local level.

Additionally, the organizations represented at the national level are the same organizations that negotiate wage agreements at the local level. The allocation of training funds (which will be taken up in a subsequent section) are negotiated in collective bargaining agreements by the same organizations whose members form the local apprenticeship committee.

Apprenticeship programs have government, industry, and labor components. While program organizations vary slightly, an idea of their basic structure can be obtained from Figure 1.

Figure 1



The organization of apprenticeship programs for industrial unions diverges from the organization presented above in one important aspect. Industrial unions prepare National Standards for their respective trades in cooperation with the Bureau of Apprenticeship and Training. The Standards allow for the formation of Joint Apprenticeship Committees with employers with which the international union has a collective bargaining relationship. Building and construction trades unions negotiate with contractor associations rather than individual employers. This permits the establishment of a national joint committee for apprenticeship and training. Because industrial unions negotiate with a large number of individual employers, no such industry-wide committee is possible. Joint committees involving nonconstruction trade unions would therefore have representatives from the individual employer and the union.

The information presented in this section is an illustration of the way apprenticeship programs are supposed to work. *In reality, unions have a great deal more responsibility than the programs' organization would indicate*. A former staff member of a major construction union questioned for this project indicated that in his former union, the apprenticeship committee of the local union had control over the following factors:

- Who gets into the program
- The length of the training period
- The training material to be used
- The content of the apprenticeship program
- The number of people who will be admitted.

He further indicated that in many unions, locals enjoyed the same kind of *de facto* autonomy they had in his union.

National Apprenticeship and Training Standards

While National Standards for particular crafts are developed by National Joint Committees or international unions, apprenticeship programs are administered on a *local* level. National Standards, whose general guidelines are established by the federal regulations cited earlier, ensure a degree of consistency across individual localities.

The Secretary of Labor has recommended that apprenticeship programs include the following *minimum* standards in accordance with 29 CFR and 30.

- The minimum starting age of apprentices should be at least 16.
- Everyone above the minimum starting age should have full and fair opportunity to apply for apprenticeship.
- Selection of apprentices should be on the basis of qualifications alone.
- A minimum of 144 hours of classroom and related instruction in technical subjects related to the trade.
- A progressively increasing schedule of wages.
- Proper supervision of on-the-job training with adequate training facilities.
- Periodic evaluation of the apprentice's progress, both in job performance and related instruction.
- The maintenance of appropriate records.
- Employee-employer cooperation.
- Recognition for successful completions.
- Nondiscrimination in all phases of apprenticeship (BAT, *Setting Up*, p. 8).

In actuality, National Standards are much more comprehensive than this, covering virtually every phase of training and administration. In the Department of Labor guide to setting up apprenticeship programs, the following provisions regarding training are *recommended* for inclusion:

- *Occupations*: The program should specify which occupation or job types will be covered by it.
- *Work processes*: The primary on-the-job work processes in which apprentices receive instruction. Work processes are contained in a schedule which graduates tasks according to skill and complexity.

- *Allocation of work training time*: The relative difficulty and importance of each work process should be used to determine the amount of training required before the apprentice becomes proficient.
- *Terms of apprenticeship*: This is well recognized in most traditionally apprenticeable occupations. If it is now known, derive the time by adding up the total time required for all work processes.
- *Related classroom instruction*: A minimum of 144 hours per year of related classroom instruction. The minimum is predicated on 2 hours per night twice a week during a 36-week school year.

The following administrative provisions are suggested for BAT apprenticeship programs:

- *Apprentice qualifications*: Qualifications to enter the program must be clear, objective, and stress equal opportunity.
- *Ratio of apprentices to journeymen*: The ratio should be based on the facilities available for employing and training apprentices as well as future employment opportunities. A ratio of more than 1 apprentice to 3 skilled workers is seldom effective.
- *Apprentice wages*: Apprentice wages should be expressed or arrived at by a common method. The Department of Labor recommends a progressively increasing schedule of wages with increases every 6 months. Increases should be scheduled throughout the apprenticeship to provide both a monetary incentive and reward for progress on the job. Apprentices receiving only a percentage of journeymen wages is predicated on the greater skill and productivity of the skilled craftsworker.
- *Apprenticeship agreement*: Programs should provide for the signing of an agreement between the apprentice and the employer for registration with the appropriate state or federal apprenticeship agency. The agreement should include: home address and birthday of the apprentice, name of the employer, terms of apprenticeship, wage schedule, length of probationary period, an outline of the work process schedule, number of hours per year the apprentice agrees to attend classes, the subjects of related instruction, the name of the school, special provisions such as credit for previous experience, and the signatures of the employer and apprentice. Where a joint committee exists, the agreement would be subject to its approval.
- *Apprenticeship committee*: Responsibilities of the apprenticeship committee might include the general supervision of the program, selection and enrollment of apprentices, arranging for their employment with the employer, keeping the employer and union informed of the apprentices' progress, arranging the employment of apprentices with the employer (if more than one employer is involved), and checking and evaluating the performance of individual apprentices.
- *Credit for previous experience*: Programs should contain a provision on credit for previous experience in the occupation or related trade experience. Department of Labor guidelines specify language appropriate for this provision.
- *Certificate of completion*: Program standards usually include a provision stating that each apprentice shall be awarded a Certificate of Completion upon completion of apprenticeship training. In the case of registered programs, certificates are available either from the State Apprenticeship Council or the Bureau of Apprenticeship and Training. (BAT, *Setting Up*, pp. 9-16).

In addition, National Standards contain guidelines for the adaptation of National Standards for local use and information on federal laws and regulations affecting the employment of apprentices.

Because of the importance accorded evaluation and examination practices in apprenticeship programs, they will be taken up separately. A sampling of the specifications of individual programs will be provided.

The term of apprenticeship generally varies from two to four years. In several instances, however, terms exceed four years.

Apprentices' starting wage rates are based upon a

percentage of journeyman wage rates (often around 50 percent) and increased at regular intervals to the completion of apprenticeship. These vary from 500 hours to 6 months by most sets of Standards. For Cleaner, Caulker, and Pointer Apprentices, the wage schedule (which typifies many apprentice wage schedules) is as follows:

Number of Hours	Percent of Journeyman's Rate
0-500	50
501-1,000	55
1,001-1,500	65
1,501-2,000	70
2,001-2,500	80

BAT, *National Standards for Bricklaying*, p. 21

The Local Joint Committee is empowered to give apprentices credit for previous experience and advance them accordingly.

When a ratio of apprentices to journeymen is not specified by National Standards, it may be determined by local bargaining agreements or local practices. Union constitutions often specify appropriate ratios for indiviudal crafts. Apprentice/journeyman ratios vary by both craft and union. Ratios (apprentices to journeymen) range from 1:3 to 1:10.

Local committees are entrusted with the development of local standards which may cover a schedule of work experience on the job, provision for related supplemental instruction, provision for reviewing or testing the apprentices' progress both on the job and in related instruction, a progressively increasing schedule of wages for apprentices, the method of selecting apprenticeship applicants, provisions for the adjustment of complaints, and the procedure for providing apprentices with certificates of completion. Local committees are expected to determine the need for apprentices in individual areas; establish whether employers for whom apprentices are working have adequate facilities and are performing the required construction operations; place each apprentice under agreement, assure that apprentices are receiving the necessary on-the-job experience and related technical instruction; report of the program; notify the registration agency of all terminations, cancellations, and completions of apprenticeship; and supervise the enforcement of all provisions of the standards.

The work schedule varies according to the trade classification. Individual unions may have one or more work schedules depending upon the number of trade classifications they are concerned with. Carpenters offer apprenticeship programs for carpenters, millwrights, cabinetmakers, piledrivers, interior systems installers, and floor and wall covering craftsmen. Similarly, the International Union of Operating Engineers offers programs for Universal Equipment Operators, Plant Equipment Operators, and Heavy Duty Repairers.

A sample work schedule for Cleaner, Pointer, and Caulker Apprentices (International Union of Bricklayers and Allied Craftsmen) is reproduced below.

Approximate Hours

- Cleaning 1,000
  - (1) Use, care, and maintenance of tools and equipment
  - (2) Sandblasting
  - (3) Grinding
  - (4) Chemical washing
  - (5) Etching
  - (6) Pressure cleaning
- Pointing 250
  - (1) Mixing mortar
  - (2) Tuck pointing and striking joints
  - (3) Dry packing
- Caulking 1,125
  - (1) Use, care, and maintenance of tools and equipment
  - (2) Mixing and applying primers
  - (3) Mixing and applying sealants
    - (a) Oil base
    - (b) Butyls
    - (c) Neoprenes
    - (d) Acrylics

(e) Polysulfides
(f) Urethanes
(g) Silicones
(4) Masking
(5) Waterproofing

- Scaffolding and rigging..... 125
(1) Swinging states
(2) Single basket

Total: 2,500

(*National Standards*, pp. 21-22)

Apprenticeship Programs and Union Constitutions

In addition to national standards, the constitutions of all building and construction trades unions participating in joint apprenticeship programs as well as the constitutions of some industrial unions spell out specific guidelines for their apprenticeship programs. Without going into any great detail, the constitutions of unions participating in apprenticeship programs are likely to specify one or more of the following aspects of local apprenticeship programs:

- The time required to complete an apprenticeship program;
- Whether or not an examination is required to reach journeyman status;
- Ratio of apprentices to journeymen;
- Supervision;
- Number of people on local/district council apprenticeship committee;
- Composition and selection of local/district committee;
- Training standards;
- Minimum age for apprentices;
- Supervision of apprentices;
- Initiation fee;
- Wages paid apprentices.

It can be safely assumed that the articles of union constitutions which cover apprenticeship programs are incorporated into the national standards programs approved by the Bureau of Apprenticeship and Training.

Evaluation

Many National Standards call for the periodic evaluation of apprentices. Samples of the language contained in various National Standards is given here.

International Union of Operating Engineers

Periodic Evaluation of Apprentices. It shall be the responsibility of the local joint committee to evaluate these records at periodic intervals and ascertain the progress of apprentices both on the job and in related instruction. Any shortcomings in the training of an apprentice will call for immediate corrective action by the joint committee. Upon completion of their apprenticeship terms, apprentices shall be required to pass an examination attesting to the satisfactory completion of their training (BAT, *National Standards for Operating Engineers*, p. 7).

International Brotherhood of Electrical Workers

Advancement of Apprentices. At the end of each 1,000 hour period of employment, the Committee shall examine the progress of the apprentice on the job and in related instruction. Action must be taken on each apprentice to approve advancement, extend present rating for a specified probationary period, or cancel his indenture (National Joint Committee for the Electrical Industry, p. 12).

International Brotherhood of Carpenters and Joiners of America

Periodic Evaluation. Shortly before the expiration of each 6-month period, the local joint apprenticeship committee shall evaluate the progress of all apprentices reflective both of their progress on the job and their progress in the related training experience (BAT, *National Standards for Carpentry*, p. 8)

Operative Plasterers' and Cement Masons' International Association

Supervision and Evaluation. A recording system shall be prepared on each apprentice, recording hours of work in the skill categories. The apprentice shall be graded as to progress. The contractor shall designate a particular person, who may be the superintendent, foreman, or plasterer, to be responsible for the apprentices. This person shall be required to sign the apprentice report (BAT, *National Standards for Plastering*, p. 8).

Apprentices completing their course of instruction are given a certificate of completion. Receipt of the certificate is often contingent upon the passage of an examination.

Besides the formal evaluation procedure stipulated above, one might make the claim that apprentices receive frequent evaluation in the form of comments, criticisms, suggestions, and advice from the journeyman supervising their work.

Competency-Based Apprenticeship Programs

Virtually all BAT-approved programs are time-based. That is, apprentices are advanced after receiving a specified number of hours of on-the-job training and related classroom instruction and demonstrating comprehension of the required material. This facet of BAT programs disturbs open shop advocates, because it adds considerably to the expense of training programs.

Recently, some unions have made tentative forays into competency-based programs. Ostensibly, "competency-based" programs differ from "time-based" apprenticeship programs, because apprentices can qualify for advanced standing after demonstrating they have a particular level of skills. Examples of competency-based programs in the union sector are the Communications Workers of America's Communications Technician Training Program (CTTP) and the Brotherhood of Carpenters and Joiners of America's Performance Evaluated Training System (PETS).

The Communications Technician Training Program was CWA's one-time venture in training and certification. Through job analysis and consultations with workers and employers, CWA formulated a set of competencies for three employee levels (Communications Technician I, II, and III). Upon passing an examination, employees could become certified at each level for the following trade classifications: Protective Signal Installer/Maintainer; Station/PBX/PABX/Installer/Maintainer; C.A.T.V. Installer/Maintainer; and, Splicer (Cable/fiber optics).

Interestingly enough, in the National Apprenticeship and Training Standards CWA issued for the purposes of the program, each level of each trade classification specified an *approximate* number of hours involved in the work process for each trade classification.

Given that most apprenticeship programs offer credit for previous experience and that the CTTP requires journeyman supervision for an "approximate" number of hours on individual work tasks, the CTTP did not diverge in any *significant* way from time-based programs.

The CTTP program lasted only one year. However, it's not possible to tell whether it was disbanded because it didn't work very well or whether internal union politics led to its demise. CTTP was part of an area that was absorbed in a training/retraining program which was set up in the CWA's last contract with the Bell system. The new program (unlike CTTP) is geared toward retraining in the event of layoffs and accommodating workers who wish to change job tracks.

Workers covered by the CTTP were in CWA's Communications Division (interconnects, cable TV) and were not Bell employees (i.e., the two training programs had different target groups). A CWA staff member who had been associated with the project revealed that only about 250 to 300 people received CTTP training. This was about 75 to 86 percent of the total number of applicants requesting training.

The Carpenters have established a Performance Evaluated Training System (PETS), which uses photographs of particular skills and work processes. An apprentice studies these slides, which provide step-

by-step illustrations, and then works on a project. For guidance, the apprentice refers back to the slides. An instructor answers questions, and monitors the accuracy of procedures used by the apprentice. The completed project is evaluated to determine if the skill level required for the specific process has been reached. The apprentice continues to work on projects, and must complete at least 52 of the 60 "blocks" (which represent skills or work tasks). PETS was inaugurated in 1977 through 10 pilot projects. ("Brotherhood," 1981).

The program continues to exist, although no published accounts specify the number of locals which have implemented PETS.

Funding

The funding of apprenticeship programs is arranged through collective bargaining agreements. Contractor associations/employers agree to set aside a specific cents-per-hour charge for each hour worked by union members in order to fund training programs.

In 1982, the Business Roundtable requested the Construction Labor Research Council to determine the extent of available training funds in the union sector. CLRC monitors 3100 collective bargaining agreements in the construction industry. Monitored agreements cover about 85 percent of all union construction workers. CLRC found 74 percent of monitored agreements contained provisions for the funding of apprentice training programs. Charges in the agreements ranged from two cents-per-hour to over 50 cents-per-hour. The national average for all apprentice training charges in monitored contracts (weighted in proportion to members covered) was $0.09/hour.

Assuming an active workforce of 1,605,000 in 1981 (out of a total building trades membership of 2,778,000) and as 40 hour week for each active member, the Business Roundtable estimate that $230 million was available for apprentice training in joint programs for the year (Business Roundtable, *Training Problems*, p. 14).

The bulk of the cost of training programs is contained in start-up costs. Start-up costs include the training center and training materials. Once a program is underway, maintenance costs are amply provided for by employer contributions.

Enormous initial investment costs make it very difficult for non-union employers to start *new* programs in the open shop sector of the construction industry.

The training funds for use in defraying the cost of apprenticeship or other training programs to which employers contribute are authorized under the Labor-Management Reporting and Disclosure Act of 1959. Training funds are established in the form of a trust with an equal number of management and labor trustees.

Trust agreements must stipulate that (1) The trusteeship is a nonprofit organization; (2) No part of the net earnings will inure to any private or individual member; (3) In the event of dissolution of the trust, the accrued monies and other assets will be disposed of in a predetermined manner (they can be apportioned to those who paid into the fund, donated to a charitable or educational organization, or contributed to the labor organization).

Training funds are considered tax exempt by the Internal Revenue Service under section 501(c)5 of the Internal Revenue Code of 1954. Employer contributions to the training trust fund are deductible as ordinary and necessary expenses in the conduct of a business under 162(a) of the Internal Revenue Code.

Objectives of Apprenticeship Programs

Unions do not always indicate what their motivations or objectives are with respect to apprenticeship programs. Consequently, what follows is not necessarily reflective of the views of a majority of unions. The following statements of unions have been included here because they have a bearing on the purpose of peer assistance in training and evaluation in the trade union context.

One of the most common themes running through union statements about their apprenticeship programs

is that *apprenticeship programs help unions come to terms with changes in their respective trades*. In a 1971 letter to all local unions in the U.S. (included in National Apprenticeship and Training Standards of the Electrical Contracting Industry), the International Brotherhood of Electrical Workers' president noted:

> The Electrial Contracting Industry is continually changing. Technological advances dictate installation procedures and techniques, which calls for periodic review of our training programs. Your Brotherhood has participated in the development of these National Apprenticeship Standards and in securing approval of the U.S. Department of Labor. (National Joint Committee for the Electrical Industry, p. III).

In the introduction to its Apprenticeship Policy Manual, the International Association of Machinists and Aerospace Workers' president and officers pointed out:

> Apprenticeship is the oldest and most traditional method of on-the-job training in industry, and just as the apprenticeship systems developed and expanded during the Industrial Revolution, we believe there is a role and need for apprenticeship in our industries as we enter the technological Revolution (International Association of Machinists and Aerospace Workers', p. 1).

Secondly, *apprenticeship helps unions with membership in declining industries retrain their members for employment in more promising jobs*. In the 1975 letter submitting the UAW's National Apprenticeship Standards to the Bureau of Apprenticeship Standards to the Bureau of Apprenticeship and Training, Douglas Fraser (then president of the UAW) stated:

> It is imperative that, regardless of economic fluctuations, we continue to seek and develop solutions to the problems which face workers when technological changes affect their personal work careers and livelihoods (United Auto Workers, p. 2)

Thirdly, *apprenticeship is the means by which building and construction trades unions regulate the supply of workers in a particular industry*. Through apprenticeship programs, building trades unions are active agents in the labor market for their particular trades. Contractors, when speaking about apprenticeship programs, tend to focus on the ability of the programs to provide an adequate supply of trained workers to meet their needs.

If too many apprentices are admitted at one time, there will eventually be too many journeymen for local conditions. Conversely, if too few apprentices are admitted (as dictated by local economic conditions), a shortage of skilled craftsmen will ensue.

To the extent that local contractors' associations leave apprenticeship training in the hands of local unions, they expect to have adequate supplies of skilled tradesmen when they need them. This might be viewed as an implicit contract.

Fourthly, *apprenticeship training (when conducted in conformity with National Standards for a specific trade) ensures uniformity and consistency in the skill levels of a union's journeymen, regardless of the particular region in which they happen to be*. National Standards are sometimes adapted to local requirements, but the skills and work processes covered in apprenticeship programs are designed to be transferable from one locale to another.

The Extent of Apprenticeship Training

Many journeyworkers have not achieved their standing in their trades through apprenticeship. Department of Labor estimates for selected trades reveal that the percentage of journeyworkers completing apprentice programs range from 25 percent on the low end to over 60 percent on the high end. (See Table 1.)

One former trade union staff member, questioned about the high proportion of craft union members not receiving apprenticeship training, replied that it is true that many people reach journeyworker status without first going through apprenticeship training.

If a formerly non-union contractor becomes unionized, the people who have previously worked for the contractors are often given cards if they have the requisite skills and experience. If everybody is

required to complete apprenticeship training, it would not be possible to organize non-union places.

In other instances, people do get their cards through connections. Even in these situations, the system does not support unskilled people. Contractors can refuse to accept workers sent from the union hiring hall if they are not satisfied with their work. A person lacking the necessary skills would most likely be known to his or her fellow workers and would therefore not be sent to do work for which they were unqualified.

Table 1

PERCENTAGE OF JOURNEYWORKERS COMPLETING APPRENTICESHIP PROGRAMS BY CRAFT

	1975	1964
Bricklayers	61%	—
Plumbers & pipefitters	61	55%
Sheet metal workers	57	71
Electricians	56	73
Carpenters	39	31
Ironworkers	25	—

SOURCE: Figures provided in Business Roundtable. *Government Limitations on Training Innovations*. Report D-2. New York: Business Roundtable, 1982

JOURNEYMAN UPGRADING

Almost every union with an apprenticeship program has a journeyman upgrading program. Upgrading programs apprise journeyworkers of changes in their respective trades.

The program conducted by the International Brotherhood of Electrical Workers began in the 1950's when the growth of electronics necessitated a whole new range of skills. Today, plumbers require additional training because of changing materials. For example, there are no cast iron pipes anymore.

Less formal than apprenticeship programs, journeyworkers in upgrading programs might get a card in the mail telling them to report to the training center on specific a day to learn about a specific subject. Their attendance in these instances is optional. Apprentices, on the other hand, *must* attend instruction sessions.

Funding for journeyman upgrading programs comes from a separate cents-per-hour charge negotiated in collective bargaining agreements. Upgrading funds are separate from apprenticeship funds.

THE BUILDING AND CONSTRUCTION TRADES UNIONS

This section examines the building and construction trades unions. This examination is necessary because of these unions' impressive presence in the area of apprenticeship, their unique status under the National Labor Relations Act, and the key role apprenticeship programs play in maintaining each union's strength.

In recent years, the building trades unions have suffered enormously from the growth of non-union firms employing workers at low wage rates. In order to fully appreciate the pivotal role of apprenticeship programs in these unions, it has been necessary to provide a discussion of the non-union (open shop) sector and its relationship to the unionized sector of construction.

How They Operate

About 95 percent of construction work is covered by local agreements between local unions and local contractors' associations. Most of these associations are trade specific. For example, IBEW locals have agreements with local branches of the National Association of Electrical Contractors (NECA). Plumber locals have agreements with the local branches of the Mechanical Association.

Several unions (Operating Engineers, Laborers, Carpenters, and Cement Masons) sign directly with the general contractors. However, much of the general contractor's work today is shifting to construction management.

Union members work for specific contractors, but the relationship is more fluid than it is in the case of industrial unions. When a job is finished and the contractor does not have a job lined up or cannot hire all of the workers from the previous job, workers go to the hiring halls of their unions.

Local contractors expect unions to maintain an adequate supply of skilled craftsmen. Manpower has to come first from the hiring hall as specified by collective bargaining agreements.

Unlike other unions, construction unions are allowed to sign pre-hire agreements. This means that construction projects can be unionized before anyone is hired to work on them. For example, if a contract is let to a union contractor, the work will be performed by union workers under the terms of the agreement between the contractor's association and the local union.

Agreements between local unions and local contractor associations cannot be superseded by any authority other than the Building and Construction Trades Department of the AFL-CIO. In some instances, local unions and representatives of the Building and Construction Trades Department negotiate project agreements with the developers of specific contracts. Project agreements, specific to individual construction projects, supersede local agreements. Because project agreements involve a number of unions, their successful negotiation is dependent upon the cooperation of individual building and construction trades unions.

On January 30, 1979, the Building and Construction Trades Department's (AFL-CIO) Governing Board of Presidents initiated new procedures for granting project agreements. Although such agreements had been historically negotiated only for major industrial and powerhouse facilities, competitive pressures had necessitated their expansion to all facets of the construction industry.

Since 1979, cooperation among unions resulted in 229 granted or pending project agreements, employing over 107,000 workers. Construction dollar volume on construction projects covered by project agreements exceeds $41 billion dollars. (AFL-CIO, p. 297)

The Open Shop Movement

Non-union firms have historically performed a substantial amount of light and residential construction. Until recently, however, construction unions had a virtual monopoly on heavy construction projects. Union contractors and union hiring halls were the only place where skilled laborers could be found in sufficient quantity to perform the large and complex construction tasks required by particular projects.

About ten years ago, non-union firms began to get involved in heavy construction. People around the

building trades unions indicate that the Business Roundtable was intimately involved in the recent incursions of open shop contractors in heavy construction. The Business Roundtable succeeded in organizing major clients of construction firms, who were encouraged to use non-union contractors. Oftentimes, only non-union firms were allowed to bid on projects in "invitation only" bidding. This forced a number of large union contractors to set up non-union subsidiaries to secure contracts. Firms that did this are described as "double-breasted."

The umbrella organization for non-union construction firms is the Associated Building Contractors (ABC) organization. While its origins predate the recent growth spurt in open shop construction, both ABC and its member shops have experienced rapid growth from the developments of the last decade.

ABC shops are also called merit shops because they espouse the "low bid gets the project" principle. ABC shops flourish in open as well as invitation only bidding processes because they are not compelled to pay union wages (except in the case of federally financed construction projects).

The rise of merit shops has forced some unionized general contractors to hire non-union subcontractors in a *limited number of cases* in order to compete with ABC shops. However, this only applies to unions not signing with the general contractors.

The subcontracting clause in collective bargaining agreements with locals signing with general contractors prohibits the general contractor from subcontracting out work to any non-union subcontractor that does the work of a union with which they have an agreement.

This means that all the work done by Carpenters, Operating Engineers, Laborers, and Cement Masons cannot be subcontracted to non-union firms. General contractors sometimes get around this by acting in the capacity of construction managers for the owners. On the other hand, the work performed by Electrical Workes, Plasterers and Plumbers can be subcontracted to non-union firms whether or not the general contractor is acting as construction manager.

The History and Extent of Training in the Open Shop Sector

The training capabilities of open shop contractors have not grown apace with the open shop share of the construction market. The first formal ABC open shop apprentice program (nonjoint) was started in Baltimore and approved in 1959 by the State Apprenticeship Council. BAT recognition of any ABC program did not occur until 1970.

By mid-1982, approximately half of ABC's 72 chapters offered a total of 170 separate training programs. Total enrollment in ABC programs at that time was about 5,000. Annual funding of all programs totals $2 million.

The largest and most comprehensive open shop training programs are offered by five industrial contractors, operating in the southeastern and southwestern United States. Because of the highly specialized nature of the training, none of these training programs have received BAT approval. Yearly enrollment in these programs averages 12,000. Approximately $8-9 million annually is spent on training by the contractors.

The bulk of open shop training programs cover four trades. These are: carpentry, electrical work, plumbing, and sheet metal. Ironworking, bricklaying, and cement finishing are covered by fewer than a third of open shop programs. Electrical apprentices account for over half of the total number of participants in ABC programs. Plumbing, carpentry, and sheet metal account for 20 percent, 15 percent, and 10 percent respectively of total apprentices in ABC programs. The majority are geared to training apprentices for commercial and light industrial work, a significant market segment for ABC contractors.

ABC programs which deviate from government requirements of 144 classroom hours and 2,000 job site hours per year and take less than the customary 3 to 4 years to complete generally fail to gain BAT or SAC approval.

Unlike union programs which often have their own training centers, ABC programs use vocational schools, high schools, junior colleges, universities,

contractors' shops, and leased or rented training space (Business Roundtable, *Training Problems*, pp. 8-11).

As is apparent from this discussion, ABC and other open shop training programs can only supply a small fraction of the skilled labor required by the open shop sector. (See Table 2) In part, the inadequate training capability of the open shop sector stems from its inability to obtain sufficient funding from open shop contractors. Unlike the union sector, funding in the open shop sector is voluntary.

Unrelated to this difficulty, but no less significant, is the problem of excessively specialized and fragemented training programs in the open shop sector. The latter charge, leveled at open shop programs by their pro-union critics, implies workers trained in open shop programs are not as well trained as workers in the union sector.

Table 2

APPRENTICES IN SELECTED JOINT AND NONJOINT PROGRAMS—1978 U.S. TOTALS

	Joint	Nonjoint	Total	% Nonjoint
Bricklayers	6,768	650	7,418	9
Carpenters	31,191	3,438	34,629	10
Cement masons	2,513	88	2,601	3
Electricians	19,330	6,887	26,217	26
Floor coverers	1,230	80	1,310	6
Glaziers	903	98	1,001	10
Insulation workers	1,807	196	2,003	10
Lathers	1,210	41	1,251	3
Operating engineers	4,997	143	5,140	3
Painters	5,381	205	5,586	4
Pipefitters	8,261	403	8,664	5
Pipe and steamfitters	916	14	930	2
Plasterers	1,171	5	1,186	1
Plumbers	10,588	4,913	15,501	32
Roofers	4,184	228	4,412	5
Sheetmetal	6,707	1,125	7,832	14
Sprinklerfitters	1,761	183	1,944	9
Structuralsteel	6,671	97	6,768	1
Drywalltapers	1,206	147	1,353	11
Linemen	1,624	114	1,738	7
TOTAL	118,419	19,065	137,484	14

SOURCE: Business Roundtable. *Training Problems in Open Shop Construction*. New York: Business Roundtable, 1982.

The Problems of Training in the Open Shop Sector

In the *30th Anniversary Report of the AFL-CIO Executive Council*, the Building and Construction Trades Department reported that apprenticeship is "one of the strongest tools building trades affiliates have in countering the open shop movement" (AFL-CIO, p. 299).

When questioned about this, a staff member at the Washington Building Trades Council noted, "One of the biggest selling points the building trades have now is the skill level of their members. ABC workers are not as well trained."

The non-union operations have their own approach to training. Unlike apprenticeship programs conducted by construction unions, apprentices learn highly specialized skills that cut across several different crafts. They might learn some carpentry, welding, and plumbing in the same apprenticeship program. An ABC craftsman might aptly be described as a "jack-of-all-trades, master of none." Training is geared to getting people capable of getting the job done, not to training skilled craftsmen.

This is called *task training* by open shop advocates. A Business Roundtable report on training in the construction industry justifies task training as follows:

> Like many other industries, construction has become increasingly specialized. Training of workers merely to accomplish specialized tasks has, in many instances, proven to be more efficient and economical for specific projects than the broader training offered by traditional apprenticeship programs (Goverment Limitations, p. 6, emphasis added).

Open shop contractors have an instrumentalist approach to training their workforce. Their preoccupation is with producing trainees with the level of skill required to complete a project. This means concentration on specialized tasks. The Business Roundtable report continues:

> The broad knowledge and abilities learned more slowly through traditional apprenticeship are not required by every member of the workforce (p. 6, emphasis added).

For this and other reasons, construction unions charge that craftsmen trained in the open shop sector are less employable than those trained in the union sector upon completion of a project.

In addition to the narrow perspective open shop contractors have with regard to training, the quality of training in the open shop sector is hampered by inadequate funding. The union sector of the construction industry is distinguished by broad financial support for training programs, which comes from cents-per-hour charges negotiated in collective bargaining agreements.

Business Roundtable estimates indicate the total amount of funding for union apprenticeship programs in 1981 was in the neighborhood of $230 million. By contrast, only about $11-12 million were spent on training in the open shop sector from the same period. (*Training Problems*, p. 14). The inability of the open shop sector to provide adequate funding for training programs and its historical difficulty in setting up industry-wide training programs is the Achilles heel of the open shop movement. Business Roundtable encouragement notwithstanding, the harsh reality is that it is often not cost effective for ABC contractors to invest in training programs and facilities, given the large initial investment requirements.

To remedy the problem of inconsistency among programs, the Merit Shop Foundation (via contracts with several midwestern universities) is in the process of developing training curricula for 21 trades. Support for the Foundation's Wheels of Learning programs comes from ABC members for the most part (*Training Problems*, p. 13).

To the extent that training practices in the open shop sector grow, individual crafts will suffer "dilution" (a depression of the overall skill levels). Apprenticeship in the union sector ensures the continuity of the craft and simultaneously serves to buttress the position of construction unions in the labor market. In contrast to ABC shops, construction unions have a vested interest in creating a pool of highly skilled craftsmen. Their reputations and, to some degree, the wages they command are dependent

upon their continued ability to provide trained craftworkers to local contractors.

Davis-Bacon, BAT, and the Open Shop Movement

Under Davis-Bacon, apprentice rates, on federally financed projects are approved only for those registered in BAT-approved programs. All other workers must be paid at the journeyman rate. Task-oriented open shop programs, which offer highly specialized training and relatively short courses of instruction almost invariably fail to meet with BAT approval.

This means that all employees of open shop contractors on federally financed projects are required to be compensated at the journeyman rate. Open shop contractors are thus put in less competitive positions in these instances. Unless open shop contractors and their client advocates succeed in changing the pertinent laws and regulations, they will be forced to set up training programs at substantial cost in order to make inroads in this sector of the construction market.

TRAINING AND EVALUATION UNDER GOVERNMENT AUSPICES: THE ALPA EXAMPLE

The Air Line Pilots Association is involved in training and evaluation in an industry heavily regulated by the federal government. As we attempt to point out, federal regulations do not preclude union involvement in training, but serve to define areas in which the union is involved.

Check Airmen

Check Airmen are pilots who have been given special training and authorization by the FAA to give other pilots proficiency checks and check rides. They are authorized agents of the FAA. These checks occur throughout the active careers of airline pilots. Check airmen may be members of ALPA when they are administering checks to other pilots.

Training Pilots

For some air carriers, initial training is given by training pilots of a carrier (under FAA regulations). For example, United Airlines has a large training center in Denver. The trainers are pilots. Both training pilots and trainees in these instances are members of ALPA.

Not all carriers have this system, however. In some cases, training is subcontracted to companies which specialize in training.

Safety Committees

In the above examples, pilots act under FAA auspices. Under union auspices, there exists an extensive structure of safety committees, comprised of working pilots. Committees exist in such areas as training, aircraft certification, and all-weather flying.

The training committee's jobs are to be aware of FAA regulations on training, to deal with problems or gaps in the regulatory framework, and to deal with problems in the way training is conducted at particular locations. The training committee passes on information about training to other pilots and the airlines themselves.

American Flint Glass Workers Union, *International Constitution*, Adopted by the Ninety-Fourth International Convention in Bal Harbour, Florida, June 13-24, 1984 and effective and in full force on and after September 1, 1983.

AFL-CIO. *30th Anniversary Report of the Executive Council.* Washington, D.C.: AFL-CIO, 1985.

"Apprentices." *Chronicle Occupation Brief* 53. Morovia, New York: Chronicle Guidance Publications, September 1980. 6 pp.

The Army Apprenticeship Program. Washington, D.C.: U.S. Government Printing Office, 1981.

"Brotherhood Maintained in Apprenticeship with PETS." *The Carpenter* 4 (April 1981): 2-3.

Business Roundtable, *Construction Training through Vocational Education.* Report D-3. New York: Business Roundtable, 1982.

_____. *Craft Training in Open Shop Construction.* New York: Business Roundtable.

_____. *First and Second Level Supervisory Training.* Report AS-4. New York: Business Roundtable, 1982.

_____. *Government Limitations on Training Innovations.* Report D-2. New York: Business Roundtable, 1982.

_____ *Training Problems in Open Shop Construction.* Report D-4. New York: Business Roundtable, 1982.

"Equal Employment Opportunity in Apprenticeship and Training." *Federal Register,* May 12, 1978, pp. 20760-20772.

Graphic Communications International Union, *Constitution and Laws.*

International Association of Heat and Frost Insulators and Asbestos Workers. *Constitution and By-Laws*, Adopted by the 24th Convention in Las Vegas, Nevada, August, 1982.

International Association of Machinists and Aerospace Workers, *Apprenticeship Policy Manual.* Washington, D.C.: International Association of Machinists and Aerospace Workers.

International Brotherhood of Boilermakers, Iron Shop Builders, Blacksmith, Forgers and Helpers. *Constitution,* Revised and Adopted at the Twenty-Fifth Consolidated Convention in Vancouver, British Columbia, August 8-12, 1977.

International Brotherhood of Painters and Allied Trades, *Constitution and Laws Governing Subordinate Bodies,* 1980.

International Union of Bricklayers and Craftsmen. *Constitution, Rules of Order and Codes,* Amended at the 1981 Convention.

International Union of Operating Engineers. *Constitution.*

National Joint Apprenticeship and Training Committee for The Electrical Industry, *National Apprenticeship and Training Standard for the Electrical Construction Industry.* Washington, D.C.: National Joint Apprenticeship and Training Committee, 1971.

Operative Plasterers' and Cement Masons' International Association. *Constitution,* Revised and Adopted at the 43rd Convention in Las Vegas, Nevada, August 18-22, 1975.

Sheet Metal Workers' International Association. *Constitution* and *Ritual,* Revised and amended by the Thirty-fifth General Convention, St. Louis, Missouri, July 31-August 4, 1978.

Tile, Marble, Terrazzo, Finishers, Shopworkers, and Granite Cutters International Union. *Constitution and By-Laws,* Revised by the Las Vegas, Nevada Convention, August 23-26, 1982.

United Brotherhood of Carpenters and Joiners of America. *Constitution and Laws,* Amended January 1, 1982.

United States Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, *National Apprenticeship Program.* Washington, D.C.: Bureau of Apprenticeship and Training, 1977.

_____. *National Apprenticeship and Training Standards for Bricklaying.* Washington, D.C. Bureau of Apprenticeship and Training, 1977.

_____. *National Apprenticeship and Training Standards for Carpentry.* Washington, D.C. Bureau of Apprenticeship and Training, *1979.*

_____. *National Apprenticeship and Training Standards for Cement Masonry, Asphasli, and Composition Trader.* Washington, D.C. Bureau of Apprenticeship and Training, 1976.

_____. *National Apprenticeship and Training Standards for the CWA.* Washington, D.C. Bureau of Apprenticeship and Training, 1982.

_____. *National Apprenticeship and Training Standards for Glaziers and Glassworkers,* Washington, D.C. Bureau of Apprenticeship and Training, 1982.

_____. *National Apprenticeship and Training Standards for the Graphic Arts International Union.* Washington, D.C. Bureau of Apprenticeship and Training, 1975.

_____. *National Apprenticeship and Training Standards for the IUE,* Washington, D.C. Bureau of Apprenticeship and Training, 1981.

_____. *National Apprenticeship and Training Standards for Painting and Drywall Finishing.* Washington, D.C. Bureau of Apprenticeship and Training, 1982.

_____. *National Apprenticeship and Training Standards for Plastering.* Washington, D.C. Bureau of Apprenticeship and Training, 1982.

_____. *National Apprenticeship and Training Standards for Signs, Display, and Allied Workers Industry.* Washington, D.C. Bureau of Apprenticeship and Training, 1982.

_____. *National Apprenticeship for Operating Engineers.* Washington, D.C. Bureau of Apprenticeship and Training, 1978.

_____. *National Apprenticeship and Training Standards for Plumbing and Steamfitting-Pipefitting.* Washington, D.C. Bureau of Apprenticeship and Training, 1977.

_____. *National Apprenticeship and Training Standards for the Retail Meatcutting Industry.* Washington, D.C. Bureau of Apprenticeship and Training, 1982.

_____. *National Apprenticeship and Training Standards for the UAW.* Washington, D.C. Bureau of Apprenticeship and Training, 1977.

_____. *Setting up an Apprenticeship Program* Washington, D.C. Bureau of Apprenticeship and Training, 1984.